FHWA Research & Technology Agenda Website

Presentation by John Moulden
FHWA Office of Research, Development, and Technology
to the
Wisconsin Peer Exchange
October 2013

Enhancing Corporate R&T – Division – State Collaboration

- Corporate R&T is increasing support for Division R&T Coordinators
  - Dedicated webinars to brief & discuss FHWA R&T programs
  - R&T Agenda website
  - NHI R&T Coordinator web-based training course being developed
  - TFHRC on-call policy guidance & technical support is ongoing
  - Encourage increased Division funding for R&D-related travel
- Division role in soliciting state R&T issues/R&T needs
  - To ensure current state issues/needs help guide FHWA R&T priorities
  - Take advantage Div. R&T Coordinator's current SP&R oversight role
  - Potential action: Submit "Top Five" state needs to HRTM

The Division's Role in FHWA R&T Programs

- Exploring potential Division involvement in promoting FHWA R&T priorities
  - Opportunities to promote R&D collaboration with TFHRC
  - Suggest high priority Pooled Fund R&T projects to states
- Sponsor Division R&T Coordinator short-term reciprocal details with TFHRC/HRTM
- Other ideas?

The New MAP-21 Environment

- In SAFETEA-LU Congress designated funds for the R&T Program
- MAP-21 provides FHWA with the flexibility to structure a comprehensive R&T program that aligns with highway transportation needs and supports FHWA's performance goals
- The new FHWA R&T Agenda website shows how the R&T program is aligned to address six major national highway challenges

The website is designed to:

- Tell the FHWA R&T story – what we do & why
- Provide high-level overview & context of FHWA R&T, show the cross-cutting work of our offices
- Improve accessibility of the FHWA R&T portfolio to stakeholders
- Provide a web-based mechanism for stakeholder input

The website presents FHWA's R&T Agenda from two perspectives:

1) Organized by the **major, national-level highway R&T challenges** facing the U.S. and how FHWA is addressing them:
    - Advancing Safety
    - Enhancing System Performance
    - Improving the Mobility of People and Goods
    - Maintaining Infrastructure Integrity
    - Promoting Environmental Sustainability
    - Preparing for the Future

2) The FHWA R&T Agenda is also presented by traditional topic areas:

- Infrastructure
- Operations
- Safety
- Policy
- Planning & Environment
- Federal Lands
- Exploratory Advanced Research (EAR)
- Innovative Program Delivery (IPD)

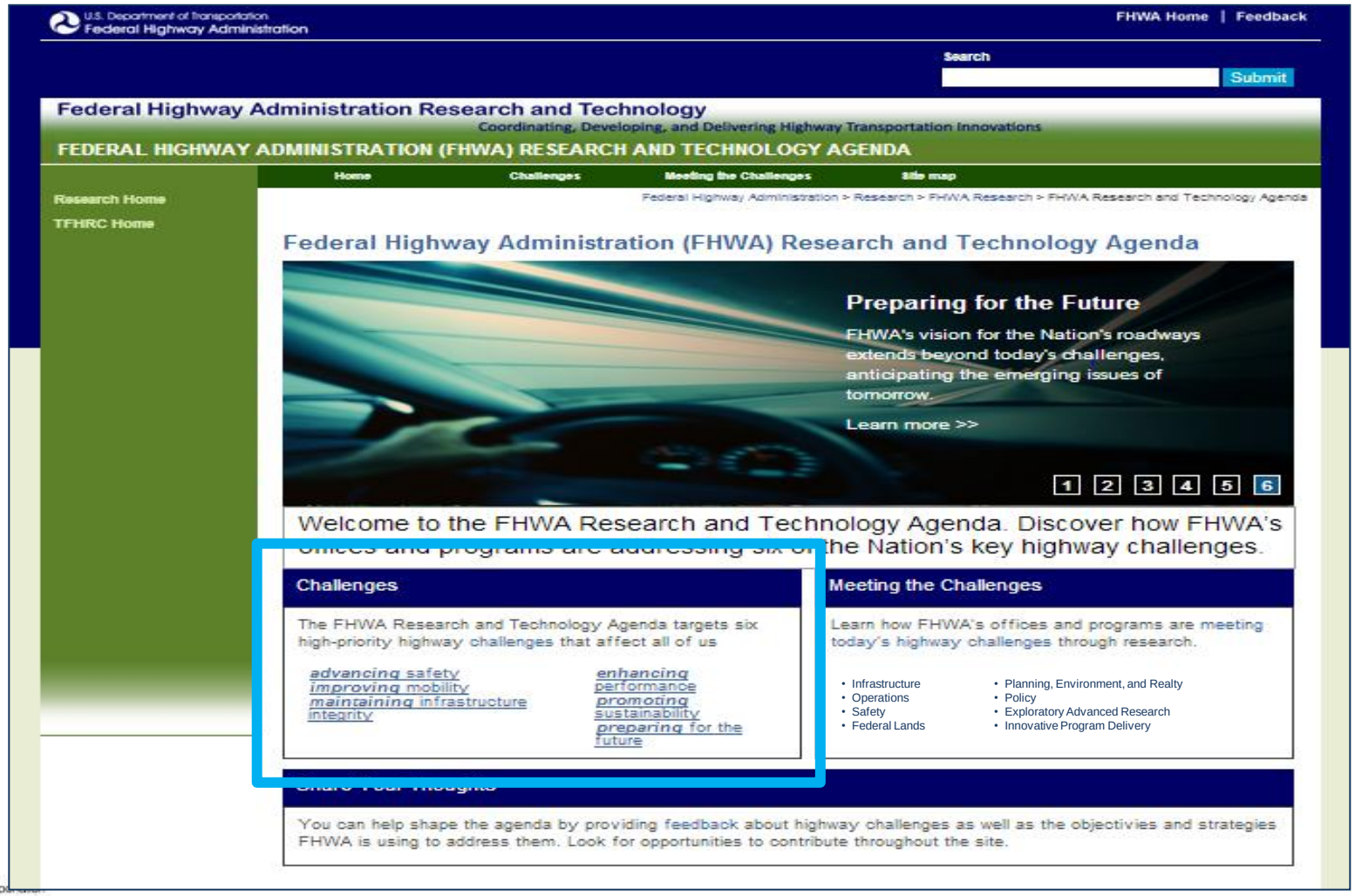
The FHWA R&T Program is based on objectives and strategies for each office

- Offices accomplish their **objectives** through **innovative strategies** that guide research planning on high-priority topics. **Activities** follow from the objectives and strategies.

- The website depicts each office's objectives and strategies, as well as examples of activities that illustrate how the R&T program stimulates new practices and policies, resulting in safer, more efficient, and more sustainable roadways across the U.S.

FHWA R&T Agenda Website

R&T Agenda Homepage / Challenges



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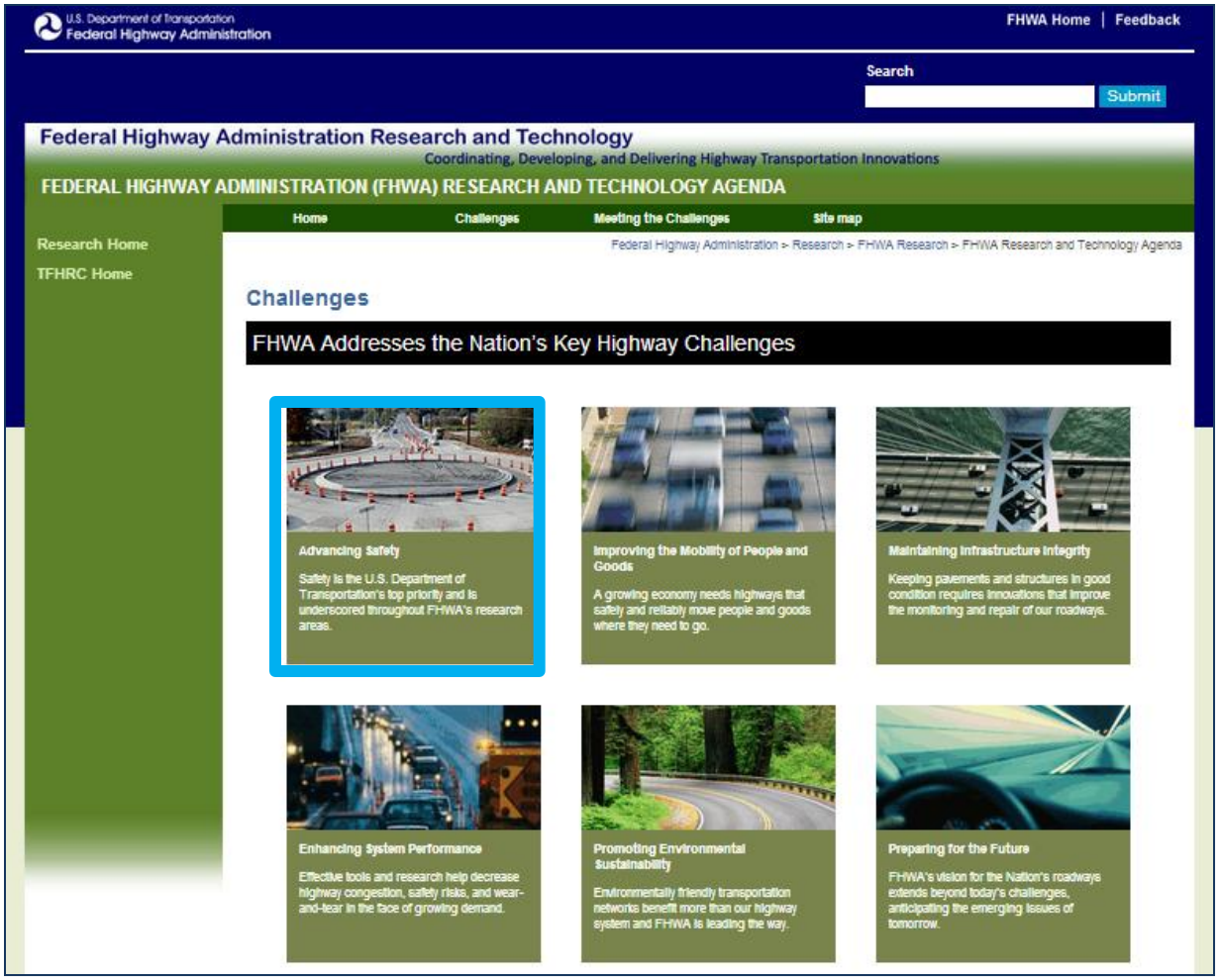
Challenges: Landing Page



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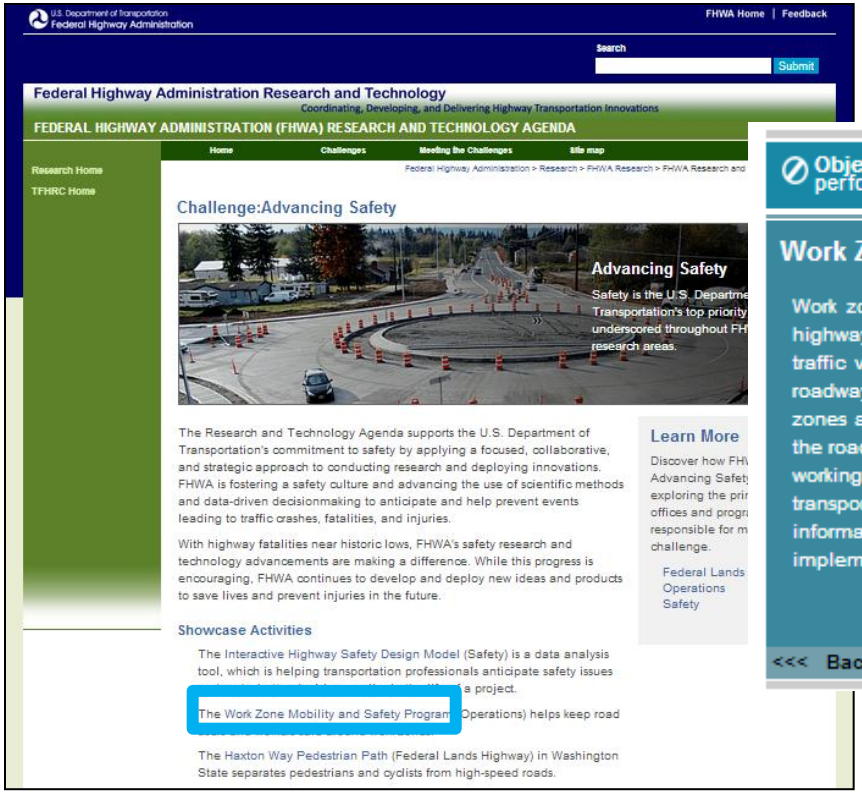
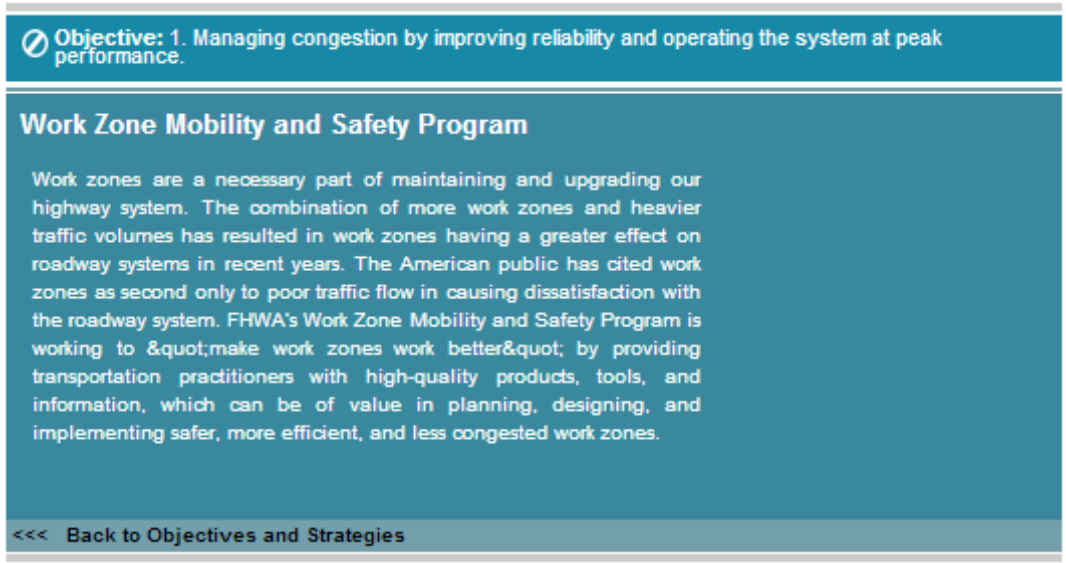
Challenges / Advancing Safety: Page Layout and Features





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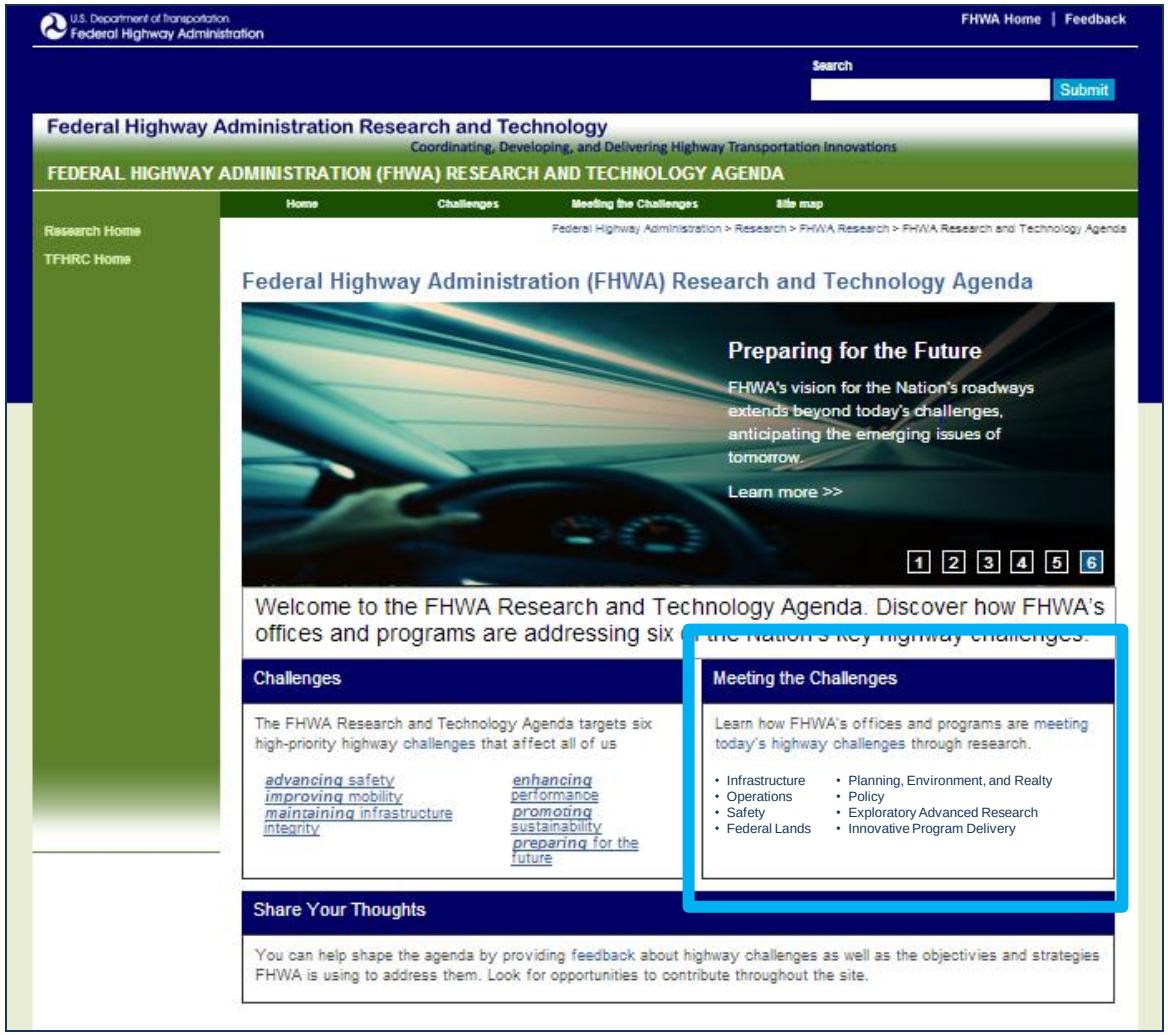
R&T Agenda Homepage / Meeting the Challenges



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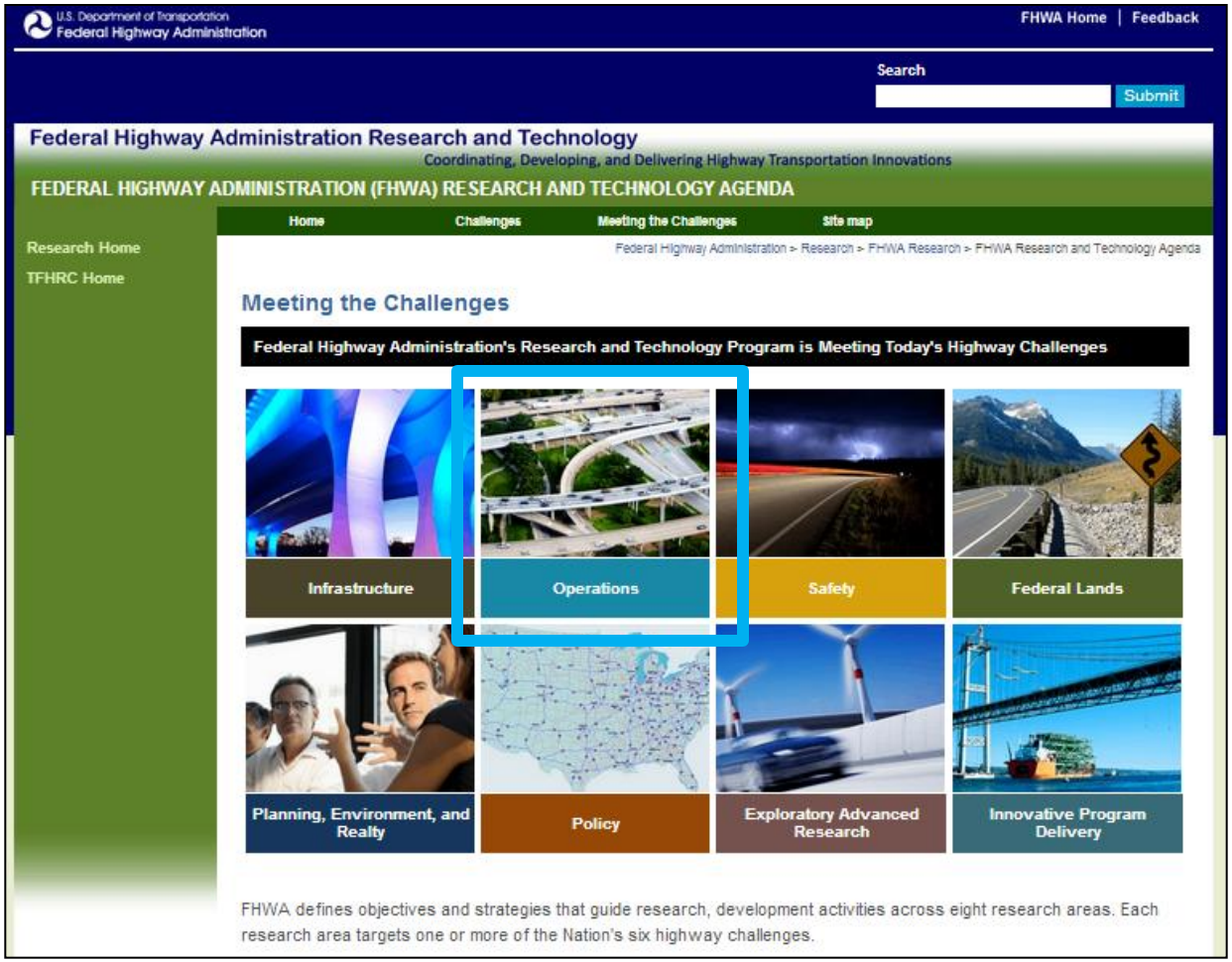
Meeting the Challenges / Landing Page: Page Layout and Features



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Meeting the Challenges / Operations: Landing Page

Federal Highway Administration Research and Technology

Coordinating, Developing, and Delivering Highway Transportation Innovations

FEDERAL HIGHWAY ADMINISTRATION (FHWA) RESEARCH AND TECHNOLOGY AGENDA

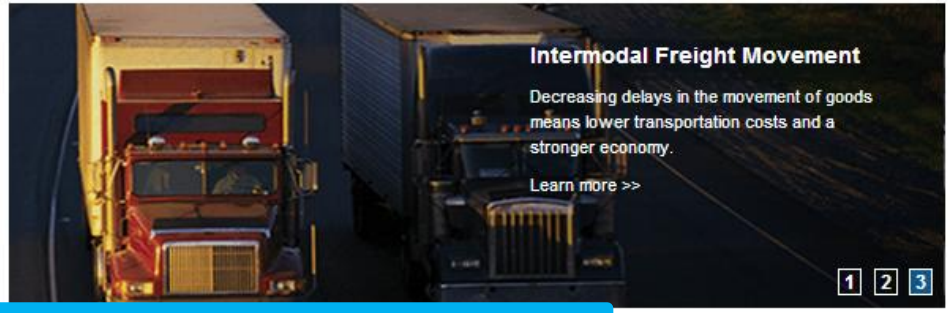
Agenda Home | Challenges | Meeting the Challenges | Agenda Site Map | Agenda Feedback

Research Home

TFHRC Home

Federal Highway Administration > Research > FHWA Research > FHWA Research and Technology Agenda

Meeting the Challenge: Operations



Highway reliability affects our ability to visit family, get to work, deliver products to customers, live our lives, and grow the economy. FHWA's operations research is developing innovative technology and processes that lead to system-wide improvements in how FHWA and its State and local partners manage and increase the reliability of the National Highway System.

These innovations target the daily operations of transportation agencies, including demand management strategies, work-zone planning guidance, and improved traffic analysis techniques. Research into new technologies and noteworthy management practices provides State and local agencies with additional tools to implement the institutional changes that will allow them to meet operational challenges.

Read More

For More Information

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Print this Meeting the Challenge

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Improved, real-time management of unexpected disruptions, such as adverse weather conditions and crashes, enables transportation agencies to improve the reliability of the highway system during times of unexpected stress. FHWA is exploring technologies—such as traffic and weather sensors, wirelessly connected vehicles, and remote management of traffic signals—to provide better information and highway management options during disruptive events.

By deploying innovative transportation technologies to manage congestion and delays, FHWA is helping transportation agencies embrace 21st-century system policies and tools that can deliver a reliable highway system for individuals and businesses nationwide.

Read Less

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Meeting the Challenges / Operations: Objective One Showcase Activity

Objective: 1. Managing congestion by improving reliability and operating the system at peak performance.

Strategies

- Develop and deploy traffic incident detection technologies and management processes.
- Promote efficient work-zone management processes.
- Develop and deploy road-weather maintenance technologies and management processes.
- Develop and deploy enhanced traffic signal technologies and arterial roadway management processes.
- Promote a corridor approach to freeway traffic management including the use of managed lanes and alternate routing to make more efficient use of existing roadway capacity.
- Develop and deploy integrated freeway operations systems to enable more proactive traffic management.
- Promote travel demand management programs that enable better route, mode, time, and location choices for travel, to reduce travel demand during peak periods.
- Develop congestion-pricing programs to manage the demand for limited transportation facilities in severely congested areas.
- Develop and deploy tools, guidance, and training for State and local roadway operators on the management of nonrecurring events that interrupt or overwhelm transportation operations.
- Develop and deploy real-time traveler information systems, which enable travelers to make choices that are more efficient.

Showcase Activities

- Active Transportation and Demand Management (ATDM)

Management (TIM) Program
- Adaptive Sig Technologies
- Road Weath Management
- Work Zone M Safety Progr
- Congestion P

Objective: 2. Building a strong foundation for proactive operations.

Objective: 3. Improving reliability through efficient movement of freight.

Objective: 1. Managing congestion by improving reliability and operating the system at peak performance.

Active Transportation and Demand Management (ATDM)

Rising congestion rates increase the potential for crashes, delays, and air pollution, and impose adverse costs to society. FHWA promotes Active Transportation and Demand Management strategies to help transportation agencies to address the problem of congestion more effectively. These strategies include a variety of real-time and predictive tools, approaches, and methods to dynamically manage and control traffic demand and transportation facility capacity, based on prevailing traffic conditions. FHWA also provides resources, such as the Active Transportation and Demand Management toolbox, which helps agencies to implement the Active Transportation and Demand Management approach. By applying such tools and strategies, transportation agencies can better address traffic flow issues, improve travel time reliability, and optimize capacity throughout their transportation networks.

Activity Contact

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<<< Back to Objectives and Strategies

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Objective: 3. Improving reliability through efficient movement of freight.

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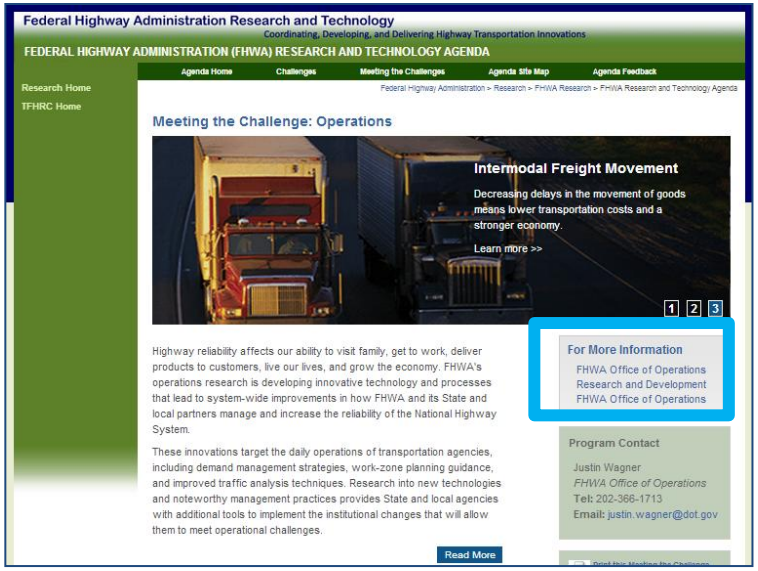
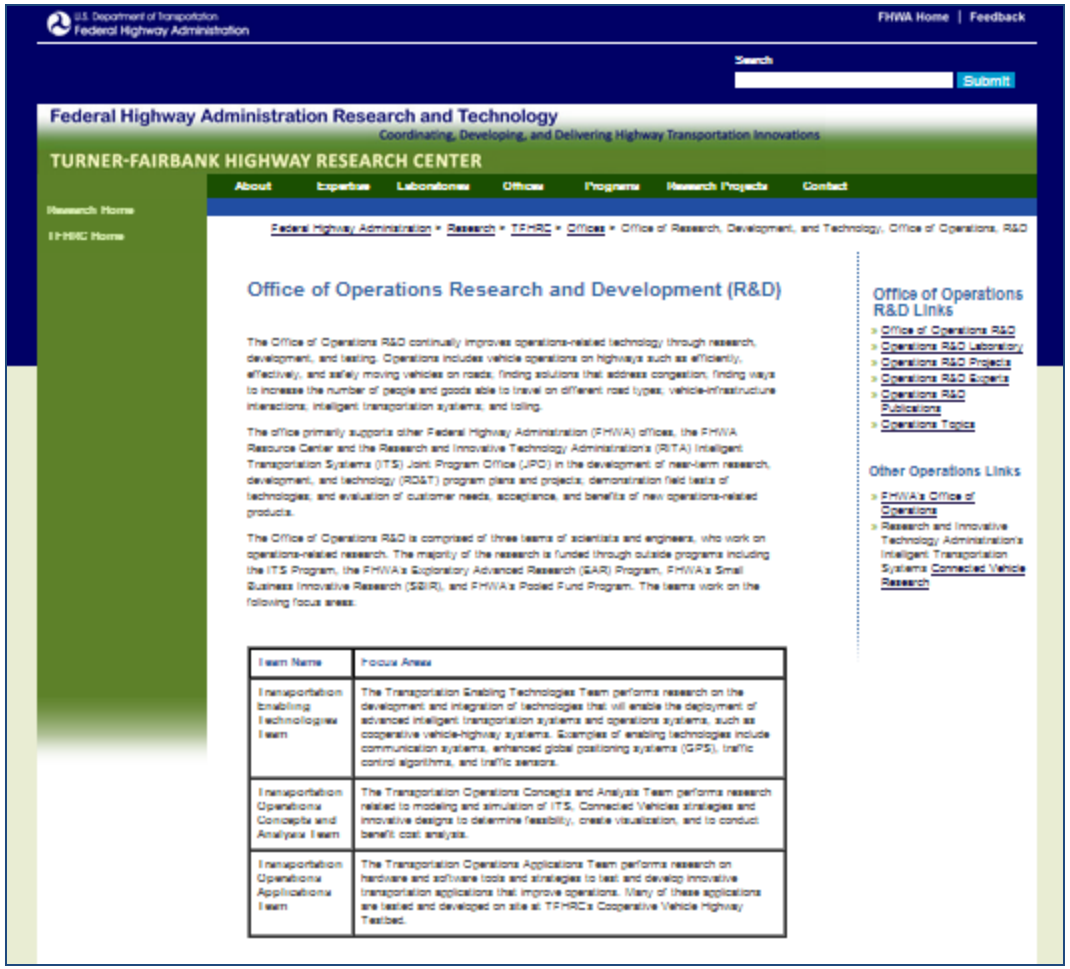
Meeting the Challenges / Operations: For More Information





FHWA R&T Agenda Feedback Questions

- What are the most pressing highway problems in your state?
- Is FHWA addressing the right (nationally critical) challenges? If not, what other national challenges should FHWA address?
- Does FHWA's overall research strategy align with the most critical challenges? If not, what areas are missing?
- Are you engaged in research that may contribute to FHWA's research strategies?

Questions?